Computerized text systems will put premium on literacy, Lederberg believes

Computerized text systems will "put a premium on literacy" and will bring on a "more careful use of language," believes Joshua Lederberg, Nobel Laureate and former Stanford faculty member.

"In ways that transcend our present ability to have an effective scholarly community, the electronic media will enable people to be in more personal touch with one another's ideas than there's any way of doing at the present time" he said in a videotaped interview with Jane Marcus, Stanford graduate student in education.

The tape is used by the Stanford Center for Information Technology to introduce potential users to the University's CONTEXT system, a set of computer-based tools supports scholarly writing and communication. A long-term user of computerized systems, Lederberg headed the Stanford Department of Genetics before being named president of Rockefeller University in 1978.

"The advantage that I find in using a text system is that you are really in close touch with your literary product. If you don't like it, you can change it, and if you get critical commentary you can receive it. You can go through an indefinite number of drafts, and it's not very painful to re-do them," he adds.

"This is so different from a telephone where you're at the mercy of first of all

Joshua Lederberg

whether you can find the party you're looking for and second where it's just not possible to backtrack with any precision on what your correspondent had said before. It's very difficult to go over words—even getting spelling correct is a painful process over the telephone."

Lederberg sees a need for computer networking in a text system not only for communication over long distances, as would be expected, but also for short distance communication.

"We found that internal communication on the Stanford campus, separated by not more than a few hundred yards, was in fact greatly facilitated by handling a great deal of our discourse over the wire," he said.

"It ended up we did 95 percent of our communication involving descriptions of programs, the elaboration of ideas, getting criticisms about proposals, over the wire rather than over the telephone. Rarely did we ever do a written communication.

"Even when it's a matter of setting up face to face conferences there's nothing that can match this for scheduling purposes. You can lay out possible calendars, exchange information over a period of a few seconds from 15, 20, 30 people. They can be widely scattered and you can find out what the best compatible date is. Try to do that over the telephone."

Lederberg sees the current transition to "electronic mail" as being similar to the transition from private letters to scholarly journals in the 16th and 17th centuries. He points out how the system contains both private and public messages.

"At SUMEX (Stanford University Medical Experimental Computer), besides private messages which are at least as confidential as any other method of communication, we also have public bulletin boards where material is posted, is identified as belonging to one or another area of interest, where anyone who is in the system is invited to browse and has all kinds of aids in terms of trying to look for those things that might be of immediate interest. That's a very short step to the formation of a journal, where the bulletin board would become the medium of publication."

Effects widespread

The effects of widespread use of text systems, especially in the area of scholarly activity, are many, according to Lederberg. "We're already observing the multiplication of data bases that are scattered all around the country. Terminals of this kind and their searching capacities are going to give one access to the libraries of the world. The libraries of the world will be decentralized but available to anyone who has a terminal that can connect to the world's communication systems.

"There, we're going to have to find some better methods of quality control of the kind of information that one has access to, and probably a way in which there can be a dynamic feedback from the critical community to those libraries.

"You should be able to write marginal notes on the stuff that you have read, looked at and wish to criticize. Since you can do this non-destructively, you can be helpful in informing other users of the same library in a way that would not be tolerated at the present time.

Better language use

"I think it will put a premium on literacy, of a kind that has been vanishing with the pre-eminence of the telephone as the way in which people communicate, as people relate to language in a more deliberate and thoughtful way, as one looks at one's own writing and has the opportunity to see again what one has written some time ago, in contrast to what one has said over the telephone. The more careful use of language is an inevitable and to my view generally desirable outcome."

Lederberg says that adopting text systems should not present problems to new users. "I think the main hang-up may have to do with the element of status and prestige that's associated with using a terminal yourself, with typing in our own material and so on.

"This may be more of a problem to certain kinds of professionals than it is to scholars, but that is one reason it may take another generation before we'll find the widespread use of these systems in professions like medicine or law, where there are silly status associations with using a terminal yourself."

Lederberg was interviewed as part of a videotaped study evaluating the effectiveness of computerized text network systems. Jane Marcus, a Stanford graduate student, conducted the study.

—Adam Goodman

CONTEXT demonstration of new features slated

A demonstration of the CONTEXT system including a prototype technical text and foreign language character sets, will be given on November 23, 3-5 p.m. and November 24, 10 a.m.-12 noon at Polya Hall III. Call Ruby Lai at 497-4376 to reserve a place at the demonstration.